ABSTRAK

Industri tapioka menghasilkan limbah cair yang mengandung senyawa organik dan harus dilakukan pengolahan terlebih dahulu sebelum dibuang ke lingkungan. Membran merupakan salah satu teknologi dalam pengolahan limbah cair tapioka. Penelitian ini dilakukan untuk mengetahui karateristik membran selulosa asetat dari ampas tebu dengan penambahan aditif formamida dan tanpa penambahan aditif berdasarkan nilai fluks dan rejeksi dan untuk mengetahui persentase penurunan BOD dan COD limbah cair tapioka. Membran selulosa asetat dibuat dengan metode inversi fasa dengan pelarut aseton. Hasil penelitian menunjukkan membran selulosa asetat dari ampas tebu dengan penambahan aditif formamida memiliki nilai fluks air dan limbah berturut-turut sebesar 33,563 L/m^2.jam dan 16,815 L/m^2.jam, sementara nilai rejeksinya sebesar 63,13%. Persentase penurunan total BOD dan COD limbah cair tapioka berturut-turut sebesar 83,33% dan 77,25%.

Kata kunci: ampas tebu, BOD, COD, formamida, membran selulosa asetat.

ABSTRACT

The tapioca industry produces liquid waste containing harmful organic and must be treated first before being discharged into the environment. Membranes are one of the technologies for processing tapioca liquid waste. This research was conducted to determine the characteristics of cellulose acetate membranes from bagasse with the addition of formamide additives and without the addition of additives based on flux and rejection values and to determine the percentage reduction in BOD and COD of tapioca wastewater. Cellulose acetate membranes were prepared by phase inversion method with acetone as solvent. The results showed that the cellulose acetate membrane from bagasse with the addition of formamide additives had water and waste flux values of 33.563 L /m^2.hour and 16.815 L /m^2.hours respectively, while the rejection value was 63.13%. The total reduction percentage of BOD and COD of tapioca wastewater were 83.33% and 77.25%, respectively.

***Keywords**: BOD, COD, formamide, membrane celullose acetate, sugarcane bagasse.*